

Patent Abstracts of Japan

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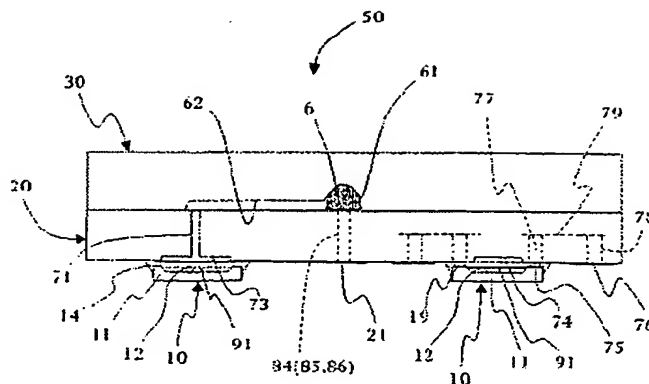
APPLICATION DATE : 13-08-02
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APPLICANT : AGILENT TECHNOLOG INC;

INVENTOR : TAKENAKA TSUTOMU;

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TITLE : ELECTRICAL CONTACT SWITCHING
DEVICE USING LIQUID METAL



ABSTRACT : PROBLEM TO BE SOLVED: To provide an electrical contact switching device which is small and in which the switching operation is fast, and stability of the operation can be assured.

SOLUTION: In the sealed space where a gas and a liquid metal are sealed up, the volume of the gas in the electrical contact switching device 50 is expanded by heat, and then the liquid metal is made to move, and thus an electrical path can be changed. The electrical contact switching device particularly comprises a first substrate 10 provided with a heating chamber having a heater to heat the gas; a second substrate 20 which is sealed up and fixed to the first substrate 10 and is provided with a passage hole 71 communicating with the heating chamber, where a plurality of electrodes which cooperate with the liquid metal to compose an electrical path transmitting high frequency signals are formed; and a third substrate 30 which is sealed up and fixed to the second substrate 20, where a channel 61 which communicates with one end of a passage to permit the liquid metal to move is formed along an fixed surface to the second substrate.

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